Remarks:

Please reconsider the application in view of the above amendments and the following remarks. The Applicant would like to thank the Examiner for review of argument and amended claims presented in a previous Reply. The Applicant particularly appreciates that claims 41-46 and 48-61 have been allowed, and that claims 8, 12-19, 27, and 32-40 were found to recite patentable subject matter.

1. Request for Continued Examination

This Reply is a submission as required with a Request for Continued Examination under 37 CFR § 1.114.

2. Amendments to the Claims

Claims 52 and 53 have been amended to recite that a tool face angle correction may be performed by adjusting either an angular displacement or a torque magnitude during rocking the drill string. The Applicant had erroneously claimed only the torque based adjustment, which is less than the Applicant believes he is entitled to claim. The amendment to claims 52 and 53 is enabled in the Applicant's specification beginning with the first full paragraph on page 22.

New independent claim 63 recites subject matter similar to claim 48, excepting the limitation that the drilling with a steerable motor proceeds from rotating to sliding drilling with the drill bit substantially in continuous contact with the bottom of the wellbore, and with the additional limitation similar to that recited in claim 49, wherein a target tool face angle is maintained. Dependent claims 64-70 recite various aspects of the maintenance of the target tool face angle as in other dependent claims in this application, and are therefore believed to be fully enabled by the specification.

3. Claim rejections - 35 U.S.C. 102(e)

Claims 1-7, 9-11, 20-26 and 28-31 stand finally rejected as anticipated by Eppink et al. (U.S. Patent No. 6,494,272). The Applicant respectfully traverses the rejection for the following reasons.

First, the Applicant reiterates argument made in a previous Reply, in that Eppink et al. only describes directional drilling with a steerable motor as known to the art prior to the Applicant's claimed invention. The Applicant recognizes that the Examiner is not bound by any assertions of fact made by the Applicant or his attorney with respect to the state of the art in directional drilling. Therefore the Applicant respectfully submits with this Reply the Declaration of Tommy M. Warren in support of the Applicant's previous assertion that directional drilling with a steerable motor known in the art prior to the Applicant's claimed invention necessarily included lifting the drill bit off the bottom of the wellbore when changing from rotating mode to sliding mode, or vice versa.

Applicant does not agree that Eppink et al. discloses any method or associated system for drilling alternately between sliding and rotating with a steerable motor without lifting the drill bit. Eppink et al. only discloses steerable motor methods already known in the art as explained above, which, according to the Declaration of Mr. Warren, necessarily include lifting the drill bit off the bottom of the well to orient the steerable motor. Drilling with a steerable motor is in fact described in the Background section of Eppink et al. as the Examiner has correctly noted, but the extent of the disclosure in Eppink relating to changing from sliding mode to rotary mode (or vice versa) is only that such change is performed. There is nothing in Eppink et al. that describes changing from sliding mode to rotating mode in any more detail other than to state that such change in mode is performed. There is nothing in Eppink et al. about how such change is performed.

The invention presented by Eppink et al., rather, is a retractable stabilizer for use with a bi-center drill bit. Steerable motor drilling is referenced in the portion of Eppink et al. cited by the Examiner to explain an advantage of conventional rotary drilling assemblies over steerable motor drilling assemblies, namely, that such conventional rotary assemblies can and preferably do include a so called "near-bit" stabilizer to act as a fulcrum for directional drilling, or as a stabilization device to prevent wander of the wellbore trajectory. As stated in the Background section of Eppink et al.:

> It can be seen that the rotary assembly and the steerable assembly with a conventional drill bit rely upon a stabilizer to act as a fulcrum or pivot point for altering the direction of drilling of the bit. When a bi-center bit is used with these drilling assemblies, near bit stabilization cannot be achieved because the nearest stabilizer can only be located approximately 30 feet above the bi-center bit because the drilling assembly must pass through the upper existing cased borehole. With the closest stabilizer being 30 feet above the bi-center bit, the drilling assembly becomes a pendulum drilling assembly and, as previously discussed, poses a problem for controlling the center line of the pilot bit and thus the direction of drilling. As with a pendulum assembly, the bit is tilted in a direction to build angle. With a normal pendulum assembly, the gravitational force acts on the bit to cause it to side cut to the low side so that the bit tilt effect may not be predominate, depending on weight on bit, drilling rate, rock properties, bit design, etc. For most bi-center bits, the lateral force from the reamer is greater than the gravity force at low inclinations, thus the bit does not side cut only on the low side, but cuts in all directions around the hole. This causes the bit tilt to predominate and, thus the bi-center bit may build angle more readily than a standard bit. Thus it can be seen that the best possible bottom hole assembly with a bi-center bit has greater instability than a comparable bottom hole assembly with a standard bit. Because of this instability, rotary assemblies with fixed blade stabilizers would require constant changing, tripping in and out of the borehole, to change to a stabilizer with a different diameter for borehole inclination correction. Also, because of this instability, steerable assemblies require a lot of reorienting of the hole direction to correct the direction of drilling, thus requiring the use of the sliding mode of drilling with its low penetration rate.

Thus, the improvement over steerable motor drilling provided by Eppink et al. is the inclusion of a retractable stabilizer to improve steering performance, but Eppink et al. clearly does not state that changing from sliding to rotating mode, or vice versa is or even can be performed with the bit in substantially continuous contact with the bottom of the hole as recited in the Applicant's claims. The Applicant reiterates his previous assertion, supported by Mr. Warren's declaration, that Eppink does not make any disclosure, whether explicit or implicit, that drilling with a steerable motor is performed, or even could be performed, according to the Applicant's invention of claim 1, wherein the bit is maintained in substantially continuous contact with the bottom of the wellbore during the transition from rotating to sliding, or vice versa.

Accordingly, the Applicant believes that claim 1 is clearly patentable over Eppink et al.

Claims 2-19 ultimately depend from claim 1 and are believed to be patentable over the art of record for at least the same reasons advanced with respect to claim 1.

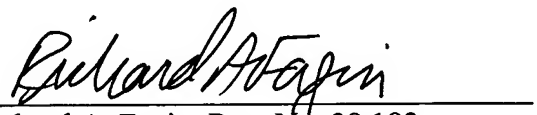
Claims 20 recites a drilling method for the more specific case of changing from rotating drilling mode to sliding drilling mode "with said bit in substantially continuous contact with said bottom", as recited in the claim. As explained above with respect to claim 1, Eppink et al. does not disclose such a method for directional drilling using a steerable motor. Applicant therefore believes that claim 20 is patentable over the art of record.

Claims 21-40 ultimately depend from claim 20, and are believed to be patentable over the art of record for at least the same reasons advanced with respect to claim 20.

The Applicant believes that this Reply is fully responsive to each and every ground of rejection and objection cited in the Office Action of November 29, 2005, and respectfully requests early favorable action on this application.

Respectfully submitted,

Date: 2/3/2006



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